Application: DDAS Web Application

21 Mar, 2019.

# Background

The DDAS Application has been intermittently freezing since a few months. The frequency of ‘freeze’ is once in a few days. Most of the time the freeze disappears after a period of one hour. The application has been running with the same code base since

On one instance recorded by us, the server hit CPU utilization of84% and Memory utilization of 96%.

Clarity identified that a process to upload the PI and SI inputs and process the compliance Forms is memory + CPU intensive and felt that the server is underpowered to handle the process.

Three recommendations were provided.

1. Nightly Batch Upload
2. Server Upgrade.
3. Scan process on a separate server.

The recommendation 1 was not acceptable to DDAS team because it requires changes in their business process.

ICON technical team has reviewed the Server’s health monitor and pointed out that server’s CPU and Memory utilization is within the permissible limits. Therefore they have not accepted the Recommendation 2 (and also Recommendation 3)

# Action Plan

The initial investigation will be broadly on the following lines:

1. Collect Application Performance data from the DDAS Team
2. Generate application log to automatically collect application metrics.
3. Map Item 1 and Item 2

We request the DDAS team to record the following:

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| --- | --- | --- | --- | --- | --- |
| DDAS Application Performance Log | | | | | |
| To be recorded daily | | | | | |
| Team Location: | | | | | |
| Number of team members present: | | | | | |
| Date | Time when the application slowed down | Time when the application freeze was noticed. | Freeze was experienced by ALL / SOME | Time when the application recovered | Remarks |
| 1-Jan-2019 | --------- | ----------- | ----------- | ------------ | No freeze experienced |
| 2-Jan2019 | 11:45 | 13:20 | ALL | 14:15 |  |
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The Application will be integrated with code to monitor the following measurements (Application Health Monitoring):

1. Server CPU and Memory utilization.
2. Application process time
3. Mongo DB Request Time
4. Client Application to Web API Request Time
5. Log user actions, Process Name (Batch Upload, Review etc.), Time Taken

Note: The Server Health Monitor ‘http://orion/Orion/APM/Summary.aspx?ViewID=352’is not accessible to Clarity users. Please check if you can provide access to this data.

We intend to run the Application Health Monitoring for at least 30 days and extend if required.

The application will undergo code changes:

The initial set of code changes will be carried out only on one section of the application, tested in development environment, in UAT and handed over to you to upload on the production server.

We may require at least 7 to 10 days to develop the prototype. We will then apply this method to a selected part of the application, test and deploy on test server and production server. If successful we would like to apply the monitoring mechanism to the entire application.

The above changes may have a marginal impact the application performance. We will be rolling back the changes after we have collected sufficient data for our investigation.